

WHAT IS CLAIMED IS:

- 1        1. A method of retransmitting a data cell, comprising:  
2                providing a transmit queue having a head and a tail;  
3                providing a retransmit queue having a head and a tail;  
4                transmitting a first data cell from the head of the transmit queue;  
5                inserting the first data cell at the tail of the retransmit queue; and  
6                retransmitting a second data cell at the head of the retransmit  
7                queue.
  
- 1        2. The method of claim 1, further comprising:  
2                marking the first data cell as requiring receive acknowledgement.
  
- 1        3. The method of claim 1, further comprising:  
2                determining if the second data cell has timed out.
  
- 1        4. The method of claim 1, further comprising:  
2                determining if the second data cell has exceeded its predetermined  
3                number of retransmissions.
  
- 1        5. The method of claim 1, further comprising:  
2                reinserting the second data cell at the tail of the retransmit queue.
  
- 1        6. The method of claim 1, further comprising:  
2                discarding the second data cell because it has exceeded its  
3                predetermined number of retransmissions or it has timed out.
  
- 1        7. The method of claim 1, further comprising:  
2                reinserting the first data cell at the tail of the recirculation queue  
3                after the first data cell has been transmitted from the head of the retransmission  
4                queue.

1           8.     A communications system having a transmission reliability  
2 subsystem, the reliability subsystem comprising:  
3                a means for providing a transmit queue having a head and a tail;  
4                a means for providing a retransmit queue having a head and a tail;  
5                a means for transmitting a first data cell from the head of the  
6 transmit queue;  
7                a means for inserting the first data cell at the tail of the retransmit  
8 queue; and  
9                a means for retransmitting a second data cell at the head of the  
10 retransmit queue.

1           9.     The communications system of claim 8, further comprising:  
2                a means for marking the first data cell as requiring receive  
3 acknowledgement.

1           10.    The communications system of claim 8, further comprising:  
2                a means for determining if the second data cell has timed out.

1           11.    The communications system of claim 8, further comprising:  
2                a means for determining if the second data cell has exceeded its  
3 predetermined number of retransmissions.

1           12.    The communications system of claim 8, further comprising:  
2                a means for reinserting the second data cell at the tail of the  
3 retransmit queue.

1           13.    The communications system of claim 8, further comprising:  
2                a means for discarding the second data cell because it has  
3 exceeded its predetermined number of retransmissions or it has timed out.

1           14.    The communications system of claim 8, further comprising:

2                   a means for reinserting the first data cell at the tail of the  
3   recirculation queue after the first data cell has been transmitted from the head of  
4   the retransmission queue.

1         15.   A communications system, comprising:  
2                   a plurality of transceiver nodes configured to utilize a time division  
3   multiple access structure to communicate between the transceiver nodes; and  
4                   the time division multiple access structure including a plurality of  
5   time slots during which the transceiver nodes are configured to communicate  
6   data cells, the data cells being transmitted from a transmission queue and a  
7   retransmission queue,  
8                   wherein cells transmitted from the transmission queue are  
9   selectively placed sequentially into the retransmission queue for later  
10   retransmission.

1         16.   The communications system of claim 15, wherein the cell  
2   transmitted from the transmission queue has been marked for receive  
3   acknowledgement.

1         17.   The communications system of claim 15, wherein the cell at a head  
2   of the retransmission queue is discarded if timed out.

1         18.   The communications system of claim 15, wherein the cell at a head  
2   of the retransmission queue has matched its predetermined number of  
3   retransmissions.

1         19.   The communications system of claim 15, wherein the cell at a head  
2   of the retransmission queue is retransmitted and then placed at a tail of the  
3   retransmission queue.

1           20. The communications system of claim 15, wherein each packet  
2 includes a plurality of cells.